

CLAIMS

What is claimed is:

1. A system for forwarding packets received at a set of interfaces, the system comprising:

a first router having a first processor and a first memory associated therewith, wherein the first memory and the first processor are adapted to run a first layer 2 protocol and a first layer 3 protocol, the first memory storing a first database; and

a second router having a second processor and a second memory associated therewith, wherein the second memory and the second processor are adapted to run a second layer 2 protocol and a second layer 3 protocol, the second memory storing a second database, wherein the second database is updated with updates received from the first router.

2. The system as recited in claim 1, wherein the updates include layer 2 protocol updates.

3. The system as recited in claim 1, wherein the updates do not include layer 3 protocol updates.

4. The system as recited in claim 1, wherein the first memory further includes a first

routing table and the second memory further includes a second routing table and the second routing table is not updated with routing information received from the first router.

5. The system as recited in claim 1, further comprising:

a first forwarding engine coupled to the first router, the first forwarding engine being associated with a first forwarding information for facilitating forwarding of packets in hardware; and

a second forwarding engine coupled to the second router, the second forwarding engine being associated with a second forwarding information for facilitating forwarding of packets in hardware;

wherein the first forwarding engine and the second forwarding engine obtain information from the set of interfaces in order to update the first and second forwarding information.

6. The system as recited in claim 5,

wherein the first forwarding information includes a first layer 2 table and the second forwarding information includes a second layer 2 table, wherein the first and second layer 2 tables associate one or more MAC addresses with the first router or the second router;

wherein the first forwarding information further includes a first layer 3 table and

the second forwarding information further includes a second layer 3 table, wherein the first and second layer 3 tables specify one or more shortcuts specifying layer 3 forwarding information, each one of the one or more shortcuts being associated with a flow associated with a source IP address and destination IP address, each of the first and second layer 2 tables enabling packets to be forwarded by a specified router when an entry specifying a particular flow is not stored in the corresponding one of the first and second layer 3 tables.

7. A method of configuring a system for forwarding packets, the system including a first router and a second router sharing a common set of interfaces, comprising:

configuring the first router and the second router, wherein configuring includes configuring a number of ports associated with both the first router and the second router, configuring a type of ports associated with both the first router and the second router, and configuring a single set of security information associated with both the first router and the second router.

8. A computer program product adapted for configuring a first router and a second router, the first router and the second router sharing a single set of interfaces, the computer program product comprising:

a computer-readable medium; and

computer program instructions stored on the computer-readable medium for causing a computer to:

configure a number of ports in the first router and the second router,
wherein the number of ports in the first router and the second router is identical;

configure a type of the ports associated with the first router and the second
router, wherein the type of ports associated with the first router is identical to the
5 type of ports of the second router; and

configure a set of security information associated with both the first router
and the second router.

9. In a switching system having a master router and a slave router, the master router
and the slave router having a shared set of interfaces, a method of forwarding packets,
comprising:

receiving a packet at the shared set of interfaces;

obtaining information from the packet at the shared set of interfaces;

updating a first set of forwarding data maintained by the master router with the
obtained information, the first set of forwarding data for facilitating forwarding of packets
in hardware;

updating a second set of forwarding data maintained by the slave router with the
obtained information, the second set of forwarding data for facilitating forwarding of
packets in hardware; and

forwarding the packet by the master router.

10. The method as recited in claim 9, wherein obtaining is performed separately by the master router and the slave router.

11. The method as recited in claim 10, further comprising:

creating a shortcut associated with the packet by the master router, the shortcut specifying layer 3 forwarding information;

wherein the information obtained from the packet at the shared set of interfaces by the slave router includes the shortcut created by the master router.

12. The method as recited in claim 9, further comprising:

modifying the second set of forwarding data maintained by the slave router in response to a failure of the master router.

13. The method as recited in claim 12, further comprising:

forwarding a packet by the slave router;

wherein forwarding the packet by the slave router is performed using a source MAC address of the master router.

14. The method as recited in claim 13, wherein forwarding the packet by the slave router is performed using a source MAC address of the master router when a shortcut associated with the packet and established by the master router has not been invalidated by the slave router, the shortcut specifying layer 3 forwarding information.

15. The method as recited in claim 12, wherein the first and second sets of forwarding data include shortcuts established by the master router and modifying includes invalidating selected shortcuts established by the master router, wherein each of the shortcuts specifies layer 3 forwarding information.

16. The method as recited in claim 15, further comprising:

forwarding a packet by the slave router;

creating a shortcut associated with the slave router, the shortcut specifying layer 3 forwarding information; and

entering the shortcut in the second set of forwarding data.

17. The method as recited in claim 16, wherein forwarding the packet by the slave router is performed using a source MAC address of the slave router.

18. The method as recited in claim 17, wherein forwarding the packet by the slave is

performed using a source MAC address of the slave router when a shortcut associated with the packet and established by the master router has been invalidated by the slave router, the shortcut specifying layer 3 forwarding information.